

REMARKS

Applicant has considered the outstanding official action. It is respectfully submitted that the claims of the captioned application are directed to patentable subject matter as set forth below.

Initially, it is noted that applicant is submitting herewith an information disclosure statement listing patent documents cited in a Japanese application corresponding to the captioned application. Copies of the non-U.S. documents are also attached. Consideration of the listed art is requested.

The drawings are objected to in that in Figure 4C, item 122 contains a misspelling of "transform". Applicant notes that the misspelling is in Figure 4C of the drawings as originally filed. Formal drawings were filed June 14, 2005 wherein the misspelling in Figure 4C was corrected and, thus no further action is necessary. A copy of corrected Figure 4C as filed June 14, 2005 is attached for the Examiner's convenience as well as a copy of the postcard containing the Patent Office date-stamp acknowledging receipt. Withdrawal of the objection to the drawings is requested.

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Claim 8 is objected to as to the phrase "converting the converting" which should read simply "converting".

Further, claims 26-35 are rejected under 35 U.S.C. §101 on the basis that the product claimed is merely a set of instructions per se and not embodied on a computer readable medium to realize the program's functionality.

Applicant has canceled claims 1-35 and added new claims 36-56. The objection to claim 8 and the rejection under 35 U.S.C. §101 were considered in the provision of the new claims. Withdrawal of the objection and §101 rejection is requested.

The outstanding rejections based on art are as follows:

- (1) Claims 1-4, 6-10, 12-29 and 31-34 under 35 U.S.C. §102(e) over U.S. Patent Application Publication No. 2003/0184557 A1 (Wen); and
- (2) Claims 5, 11, 30 and 35 under 35 U.S.C. §103(a) over Wen in view of U.S. Patent No. 6,967,746 (Walker).

Claims 5, 11, 30 and 35 were all dependent claims and Walker was relied on as to the limitations of these dependent claims.

Claims 1-35 have been canceled and new claims 36-56 added.

As set forth in paragraphs 16-18 in the captioned application, type A, B and C actions useful in the methods and systems of the invention each involve gamut mapping source color data to destination color data. Each action, however, operates by a different process to achieve the desired results. Applicant's invention concerns controlling gamut mapping and as such is a meta system for gamut mapping, but does not describe a gamut mapping itself. Thus, the methods and systems as claimed use an existing gamut mapping to derive a new gamut mapping by editing the data of the existing gamut mapping directly or by concatenating an operation after or before the existing gamut mapping.

The methods and systems of the invention start with a list of edits, which may be an empty list of edits or an existing list of edits, and by taking an existing gamut mapping which is part of a color profile. The gamut mapping is in look-up table (LUT) form or converted to LUT form. Next, the source color space and destination color space of the gamut mapping is noted, since these will become the target color spaces of each edit.

Thereafter, a new edit is added to the empty list of edits or modifies an edit in the existing list of edits and eventually sets or modifies its parameters. Each edit itself is formed by one or more actions on a gamut mapping, and these are distinguished based on three types of actions the edit can take, namely -

1. An action modifying the source color data in a source color space based on a profile edit to generate modified source color data, referred to as a type A action;
2. An action converting source color data to a destination image color space to produce destination color data and then modifying the destination color data based upon the color profile edit to generate modified destination color data, referred to as a type B action; and
3. An action directly applied to the data of the gamut map that converts the source color data to the target color space to thereby produce the destination color data, referred to as a type C action.

Each action has a source color space and a destination color space. The source or destination color space of an action may be the same as the source or destination color space of the gamut mapping, but this is not necessarily so.

The gamut mapping is modified, or a new gamut mapping is created, by the edit through applying its constituent actions by first making the color spaces of the actions and of the gamut mapping conformant. For example, methods involving the different types of actions are further described below.

For a type A action, the source color space of the gamut mapping and the source color space of the action is compared. If they are different, a color space conversion is added before the action that converts from the source color space of the gamut mapping to the source color space of the action. Similarly, if the destination color space of the action is different from the source color space of the gamut mapping, a conversion is added after the action that converts the destination color space of the action to the source color space of the gamut mapping.

For a type B action, the destination color space of the gamut mapping and the source color space of the action is compared. If they are different, a color space conversion is added before the action that converts from the destination color space of the gamut mapping to the source color space of the action. Similarly, if the destination space of the action is different from the destination space

of the gamut mapping, a conversion is added after the action that converts the destination space of the action to the destination color space of the gamut mapping.

For a type C action, the source color space of the gamut mapping and the source color space of the action is compared. If they are different, a color space is added before the action that converts from the source color space of the gamut mapping to the source color space of the action. Similarly, if the destination of the action is different from the destination space of the gamut mapping, a conversion is added after the action that converts the destination space of the action to the destination color space of the gamut mapping.

Next, the gamut mapping is modified, or a new gamut mapping is created, by applying the resulting actions of the edit.

Neither of Wen nor Walker teach or suggest the claimed methods and systems of applicant.

Wen does not teach or suggest modifying a color profile. A color profile, while having a gamut mapping as a result, is much more than gamut mapping. For example, a color profile also includes a separation step, i.e., the conversion of a device independent color space (e.g., Lab)

to device dependent color space (e.g., CMYK). The color profile editing of the claimed methods and systems modifies the separation step directly by modifying the device color values (e.g., by changing the profile so that for yellowish colors only yellow ink is used) in the profile. Wen, however, only teaches modifying the gamut mapping, which is a more restrictive and minor operation and does not achieve what the claimed methods achieve. Further, while the claimed methods and systems can be used to modify gamut mapping, such is not by "difference values" as taught by Wen but by a different application. Wen does not provide any teaching as to color profiles as claimed by applicant.

As to Walker, Walker teaches modifying a single transform for converting device color coordinates of another device color coordinates. Such is a specific and limited form of "color profile", which is referred to as "link profiles" in the International Color Consortium (ICC) specification. Link profiles do not involve device color space as an intermediate step. The claimed methods and systems including modifying a color profile are broader in scope than the teachings of Walker.

Applicants, therefore, submit that the claims are directed to novel methods and systems involving color

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profile editing and that these methods and systems are distinct from the teachings of Wen alone and Wen in combination with Walker.

Accordingly, withdrawal of the rejections under 35 U.S.C. §102 based on Wen and 35 U.S.C. §103 based on Wen in combination with Walker is requested.

Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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Attachments - PTO Form 1449 w/4 Documents
- Figure 4C (copy of formal drawing previously submitted June 14, 2005)
- PTO Date-Stamped Postcard